

REMARKS/ARGUMENTS

Claims 26-39, 41-48, and 50-65 are pending after entry of the above amendments. Claims 1-25, 40, and 49 are canceled. Claims 39, 45, and 48 have been amended above. New Claims 64 and 65 have been added.

Summary of Office Action

In the Office Action, Claims 26-38 and 52-63 were withdrawn from consideration as being drawn to a nonelected invention. The Examiner asserted that Group II, Claim 39, requires a control means for initiating supply of treatment fluid, which is said to lacking from Group I, Claim 26. Thus, only Claims 39, 41-48, and 50-51 have been examined.

Claim 44 was indicated to be allowable, if rewritten in independent form.

Claims 45-48 and 50-51 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for the reasons noted in the Office Action.

Claim 45 was provisionally rejected for obviousness-type double-patenting over Claim 26 of co-pending application 11/568,171 in view of U.S. Patent No. 5,386,799 to Dietrich.

Claim 39 was provisionally rejected for obviousness-type double-patenting over Claim 1 of co-pending application 12/066,889 in view of U.S. Patent No. 6,935,270 to Wipperfurth et al.

Claims 45-48 and 50-51 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

Claim 39 and 42 were rejected under 35 U.S.C. 103(a) as being unpatentable over Wipperfurth in view of U.S. Patent Application Publication 2002/0185071 to Guo.

Claim 41 was rejected as unpatentable over Wipperfurth and Guo and further in view of U.S. Patent No. 5,386,799 to Dietrich. Claim 43 was rejected as unpatentable over Wipperfurth and Guo and further in view of U.S. Patent No. 4,924,809 to Verbrugge.

Claims 45-48 were rejected as unpatentable over Wipperfurth in view of Dietrich. Claim 50 was rejected as unpatentable over Wipperfurth and Dietrich and further in view of Verbrugge. Claim 51 was rejected as unpatentable over Wipperfurth and Dietrich and further in view of U.S. Patent No. 4,395,971 to Happel et al.

Response to Rejections under 35 U.S.C. 112, Second Paragraph

Applicant has amended Claim 45 to correct the matters deemed to be confusing or unclear. Specifically, step (f) has been amended to clarify that further treatment fluid is used for flushing the interior of the flexible liner when the teat cup is inverted after take-off. Additionally, the phrase containing the “and/or” language has been deleted and those options (i.e., of using washing fluid or both washing and drying fluids) have been made the subjects of new Claims 64 and 65. Based on these amendments, which do not add new matter, Applicant submits the rejections under 35 U.S.C. 112, second paragraph, have been overcome.

Summary of Claim Amendments

Claim 39 has been amended to emphasize that the at least one nozzle of the post milking flushing means is disposed within the head portion of the flexible liner of each teat cup and that the nozzle is configured to direct the treatment fluid towards the discharge passageway of the liner. Further, the claim has been amended to emphasize that it is the teat cups themselves that wipe the treatment fluid down the teats. Support for these amendments is provided in the application as filed (see, for example, page 6 lines 25 - 27 and lines 31-34, the Figures of the drawings and page 3 lines 24, 25), such that no new matter has been added.

Method Claim 45 has been amended similarly to Claim 39 so as to emphasize that it is a teat cup that wipes the treatment fluid down the teat upon withdrawal of the teat cup and that further treatment fluid is discharged upwardly from within the head portion of the liner. Support for these amendments is provided in the application as filed (see, for example, the Figures of the drawings and the corresponding description at page 6 line 25 through page 10 line 26), such that

no new matter has been added. Furthermore, as noted, sub-paragraph (f) of claim 45 has been amended to meet the claim rejections pursuant to 35 U.S.C. section 112.

Response To Rejections under 35 U.S.C. 103(a)

Briefly summarizing Applicant's invention, it is concerned with equipment and methods for dipping animals' teats and flushing teat cups, post milking, that is, after each individual animal is milked. It affords a simple system for dipping animals' teats and flushing the teat cups, post milking, which is more time- and cost-efficient and alleviates other drawbacks of systems available at the time of the invention. For example, any vaporized fluid is contained within the head of the liner of the teat cup, thereby reducing the emission of vapor and spray mist, with a consequent reduction in health risk to those nearby. The invention achieves its aims by positioning one or more nozzles, through which treatment fluid can be injected into a teat cup, within the head portion of the liner of the teat cup and configuring or orienting the nozzle(s) so as to direct the treatment fluid towards the milk discharge passageway of the liner. Control means for controlling the supply of treatment fluid, such as disinfectant, to the nozzle(s) of each teat cup initiates the supply of treatment fluid to the nozzles upon take-off so that withdrawal of the teat cup causes the teat cup to wipe the disinfectant, injected within the head of the liner, down the teat and coat the teat with disinfectant. After take-off of the teat cup from the animal's teat, the teat cup is allowed to fall into an inverted rest position and the interior of its flexible liner is flushed with further treatment fluid, which, by reason of the orientation of the nozzle, is discharged upwardly over the interior of the flexible liner and, subsequently, drains through the mouth of the liner. Consequently, the invention achieves the dual purpose of enabling dipping of a teat, post milking, so that the engaged teat is coated with disinfectant fluid and, thereafter, flushing of the interior of the teat cup liner so that the liner is sanitized, washed, and dried before milking of the next animal.

The Office Action rejected Claims 39 and 42 under 35 USC 103(a) as being unpatentable over Wipperfurth et al. (US Patent No. 6,935,270) in view of Guo (US Patent Application Publication No. 2002/0185071).

Wipperfurth et al. discloses a milking teat cup of generally conventional structure in which an applicator is arranged to dispense fluid, such as disinfectant and/or conditioning solution, onto an animal's teat, post milking, the applicator being located on the outside of the head end of the teat cup where the teat is received. The applicator has orifices disposed about the engaged teat and radially directed to apply fluid in a horizontal plane across the top of the shell of the teat cup (see Claim 1 of Wipperfurth) and over the top opening in the shell receiving the teat. The fluid is applied to an engaged teat (after milking) as the teat cup is removed and before the teat is completely free of the teat cup.

Guo is directed to apparatus for cleaning a teat of a animal prior to a milking operation. The teat cleaner comprises concentric housings with an inner housing defining a teat cleaning chamber that is rotatable by a motor mounted beneath it on the outer housing. The inside wall of the inner housing supports sets of bristles that extend radially inwardly therefrom so the bristles rotate with the inner housing. The outer housing includes a cleaning fluid inlet positioned in fluid communication with a delivery conduit having an opening (defined by a lip 76) at the upper end for discharging cleaning fluid into the teat cleaning chamber. A teat to be cleaned is inserted into the teat cleaning chamber through the end of the apparatus opposite the motor and cleaning fluid is supplied to the cleaning fluid inlet, and a pressure source is connected to a cleaning fluid outlet in order to withdraw used fluid from the cleaning chamber. When cleaning fluid is supplied, the motor is switched on causing the cleaning bristles to begin rotating about and scrubbing an inserted teat for a predetermined time. Concurrently with the scrubbing process, the pressure source is actuated to create a vacuum in the cleaning chamber, thereby withdrawing used fluid from the cleaning chamber. The suction created by the pressure source serves to maintain a secure connection between the cleaner and the engaged teat.

The Office Action conceded that Wipperfurth et al., while showing post milking flushing means comprising at least one nozzle (60, 62, 64) for discharging treatment fluid, fails to show the post milking flushing means being arranged to discharge treatment fluid in a direction towards the discharge passageway of the flexible liner. Additionally, Applicant submits that Wipperfurth et al. fails to disclose post milking flushing means having at least one nozzle within

said head portion of the flexible liner of the teat cup and configured to direct treatment fluid towards said discharge passageway of the liner, and control means for initiating supply of treatment fluid to the nozzle of each teat cup, upon take-off, so that withdrawal of the teat cups causes the teat cups to wipe the treatment fluid down the teats. In Wipperfurth et al., the orifices (60-64, 100-104,) deliver fluid, such as disinfectant and/or conditioning solution, across a horizontal plane over the opening (54, 94) through which a teat is inserted into the teat cup (col.6, lines 30-33; col.7, lines 20-23). In this way the disinfectant and/or conditioning solution can be applied to the teat as the teat is being removed from the teat cup shell. Because the orifices are outside, and not within the head portion of the liner, the teat cups cannot be used, and are not used, to wipe the treatment fluid down the teats. Indeed, col. 8, lines 61-64 of Wipperfurth et al. would appear to teach the opposite, that is, fluid discharged by the applicator should not enter the teat cup and be drawn into the liner and, hence, the milk line. In any event, Wipperfurth's applicator is configured to discharge fluid in a horizontal plane across the top of the shell and it is submitted therefore that, since the teat is being removed upwardly relative to the teat cup as the fluid is discharged onto the teat, the fluid will not enter the liner and will not be wiped down the teat by the teat cup.

Accordingly, even if there were some reason or motivation to combine the cited references as asserted (which Applicant disputes below), the combination would still fail to disclose Applicant's invention because neither reference teaches a fluid injection nozzle inside the head portion of the flexible liner of a milking teat cup, which injection nozzle is oriented to direct treatment fluid towards the discharge passageway of the flexible liner, nor does either reference teach an arrangement in which withdrawal of the teat cup causes the teat cup to wipe treatment fluid down the teats.

While Guo shows that cleaning fluid to the cleaning compartment of the teat cleaner passes upwardly through a delivery conduit, the upper edge of which includes a lip (76) that directs the cleaning fluid into the teat cleaning chamber (para. [0025]), it is clear from the drawings that the opening defined by this lip is parallel to the axis X-X of the teat cleaner and Guo does not teach orienting the opening to inject the treatment fluid in a direction towards the

discharge end of the teat cleaner. The arrow (at 76) is merely a schematic representation of the flow of cleaning fluid under the action of the vacuum applied by the pressure source withdrawing used cleaning fluid from the cleaning compartment.

The Office Action asserted that it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the milking equipment of Wipperfurth et al. to include a nozzle to discharge the treatment fluid in the direction of the discharge passageway and internal annular cavity (at lip 76) as taught by Guo, for the advantage of treating the flexible liner and cleaning the length of the teat of the animal. However, the essential teaching of Wipperfurth et al. is to provide an applicator on the outside of the top of the shell of a milking teat cup having orifices configured to apply fluid in a horizontal plane across the top of the shell, this fluid being applied as the teat is being removed from the teat cup. It is asserted therefore that, on the contrary, one having ordinary skill in the art would have been deterred from modifying the milking equipment of Wipperfurth as proposed in the Office Action, because this would mean disregarding the essential elements of the milking equipment devised by Wipperfurth et al. Moreover, as previously noted, even if the cited references were combined as asserted in the Office Action, the combination would still fail to disclose Applicant's invention as defined in amended Claim 39, because the discharge opening (at lip 76) of Guo is not oriented to discharge treatment fluid in a direction towards the discharge passageway.

Furthermore, Wipperfurth et al. is concerned with a milking teat cup adapted to disinfect a teat post-milking in which an applicator having radially directed nozzles applies fluid in a horizontal plane across the top of the shell as the teat cup is removed from the teat. Guo is directed to a teat cleaner for cleaning a teat before milking in which treatment liquid flows into a treatment chamber through a radial opening adjacent the top of the chamber where the teat cleaning bristles located about the longitudinal axis of the chamber scrub the teat. Neither Wipperfurth et al. nor Guo is concerned both with disinfecting a teat post milking and thereafter disinfecting and cleaning the liner of the teat cup. Accordingly, it is submitted that it would not have been obvious or predictable to one of ordinary skill in the art at the time of the invention that modifying the milking equipment of Wipperfurth et al. to include the teaching of Guo would

result in a post milking flushing means within the head portion of the flexible liner of a milking teat cup having a nozzle configured to direct treatment fluid towards the discharge passageway of the flexible liner, thereby arriving at Applicant's invention of a milking teat cup that is capable of both disinfecting a teat, post milking, and subsequently disinfecting and cleaning the liner of the teat cup. In other words, the invention claimed in Claim 39 is not merely a combination of old elements each performing its usual function so as to produce a predictable result.

For the above reasons, amended Claim 39 is submitted to be patentable over the cited references. Dependent Claims 41 to 44 are also submitted to patentable because they include all the limitations of their respective base claim and because the cited references fail to teach the combination of those limitations with the further features recited in each of the dependent claims.

The Office Action rejected Claims 45 - 48 under 35 U.S.C. 103(a) as being unpatentable over Wipperfurther et al. in view of Dietrich (US Patent No. 5,386,799).

In relation to amended Claim 45, the Office Action conceded that Wipperfurther et al. fails to show that the teat cups fall into an inverted position after take-off from the teats. Additionally, it is respectfully submitted that the Office Action is erroneous in asserting that Wipperfurther et al. teaches (1) discharging treatment fluid into said head portion of said flexible liner; (2) said treatment fluid being discharged into said head portion and onto said teat as said teat cup is withdrawn; (3) utilising the withdrawal of said teat cup to wipe the treatment fluid down the teat; and (4) flushing the interior of said flexible liner with treatment fluid discharged into said flexible liner from said head portion. Insofar as the applicator (50, 90) of Wipperfurther et al. may be considered to be a head portion, it is not a head portion of the flexible liner, as required by Applicant's invention. Rather, the applicator is integral with the shell of the teat cup (col. 5 – lines 40, 41 and claim 1). Further, in Wipperfurther et al. the treatment fluid is not discharged into the head portion of the liner but is discharged in a horizontal plane over the teat opening (54, 94) of the teat cup. While the applicator dispenses the treatment fluid onto the

cow's teat after milking, and as the teat cup (13,18) is disengaged from the teat, because the fluid is delivered over the opening (54, 94) and not into the head portion of the liner, the teat cup does not wipe the treatment fluid down the teat. Nor is there any teaching in Wipperfurth et al. that after each milking operation the interior of the flexible liner is flushed with treatment fluid discharged into the flexible liner from the head portion of the liner. The orifices of the applicator are on the outside of the head of the teat cup and deliver fluid horizontally or radially across the top of the teat cup and not into the teat cup. Wipperfurth et al. merely teaches that, once the teat cups are fully removed and the claw retracts to the storage position, a normal delivery hose and applicator cleaning function of rinse water and air dry follows application of the disinfectant and/or conditioning solution (col. 8, lines 39-43). There is no teaching of flushing the interior of the flexible liner, subsequent to treatment of the teat of an animal, whether or not the teat cups have fallen into an inverted position after take-off from the teats.

Consequently, even if the cited references were combined as asserted in the Office Action, the combination would still fail to disclose Applicant's invention because, inter alia, no reference teaches items (1) - (4) above of Applicant's invention, as defined by amended Claim 45.

At least for the above reasons amended Claim 45 is submitted to be patentable over the cited references.

While Dietrich teaches a milking method comprising the steps of allowing the teat cup to fall into an inverted position after take-off from a teat, with the head portion of the flexible liner being directed downwardly, and flushing the interior of the flexible liner with treatment fluid, the discharge of treatment fluid being controlled by a non-return valve, Dietrich teaches injecting the treatment fluid for flushing the interior of the flexible liner via the discharge passageway of the liner and not in the opposite direction by injecting fluid upwardly into the liner from its downwardly directed head portion.

Accordingly, even if it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the milking method of Wipperfurth et al. to include

inversion of the teat cup as taught by Dietrich for effectively flushing milk and treatment fluid residues from causing chemical or bacteria contamination within the teat cup liner, the combination would not logically or predictably result in Applicant's invention which, essentially, teaches the injection of treatment fluid into the head portion of the flexible liner of the teat cup, thereby achieving, via one flushing location, the dual advantage of disinfecting animals teats and disinfecting and flushing teat cups, after milking.

Dependent Claims 46 to 51 are patentable because they include all the limitations of their respective base claim and because the cited references fail to teach the combination of those limitations with the further features recited in each of the dependent claims. For instance, with respect to claim 46, Wipperfurth et al., as modified by Dietrich, does not disclose discharging treatment fluid into said head portion of said flexible liner and onto said teat such that withdrawal of said teat cup from the teat upon take-off, substantially coats the teat with treatment fluid. Wipperfurth et al. as modified by Dietrich plainly does not disclose the step wherein said treatment fluid is discharged into a void formed between said teat and said head portion of said flexible liner, as required by Claim 47. The Office Action is erroneous in asserting that delivery of fluid to a teat within opening (54, 90) is such that fluid will flow down the teat into the interior space within the head portion between the teat and the flexible liner. On the contrary, the teat cup is being removed downwardly from the teat as treatment fluid is sprayed above it.

In summary, Applicant submits that the present claims as amended distinguish over the cited references in various respects as noted above, and accordingly, the claims are patentable over such references.

Response to Provisional Double-Patenting Rejections

Applicant notes that the present application was filed prior to the filing date of either the 11/568,171 application or the 12/066,889 application. The MPEP at §804 Part I.B.1 notes the following in a circumstance such as the present one:

“If a ‘provisional’ nonstatutory obviousness-type double patenting (ODP) rejection is the only rejection remaining in the earlier filed of the two pending applications, while the later-filed application is rejectable on other grounds, the examiner should withdraw that rejection and permit the earlier-filed application to issue as a patent without a terminal disclaimer.”

Accordingly, should the Examiner determine that the above amendments and remarks have overcome all grounds of rejection and objection except for the ODP rejections, then the ODP rejections should be withdrawn.

Additionally, Applicant notes that Dietrich does not disclose or suggest discharging treatment fluid into the head portion of the flexible liner and onto a teat as the teat cup is withdrawn, utilizing withdrawal of the teat cup to cause the teat cup to wipe the treatment fluid down the teat and, after allowing the teat cup to fall into an inverted position after take-off, flushing the interior of the liner with treatment fluid discharged upwardly from within the head portion. Accordingly, Applicant submits that the double-patenting rejection based on Claim 26 of application 11/568,171 in view of Dietrich is erroneous and should be withdrawn.

Insofar as concerns the double-patenting rejection of Claim 39 over Claim 1 of application 12/066,889 in view of Wipperfurth, Applicant notes that Claim 1 of the ‘889 application has been canceled and effectively replaced by Claim 28. Claim 28 does not disclose the features of Claim 39 of the present application concerning post milking flushing means having at least one nozzle configured to direct treatment fluid towards the discharge passageway of the flexible liner, nor supplying treatment fluid to the nozzle, upon take-off, so that withdrawal of the teat cup causes the teat cup to wipe the treatment fluid down the teat. Nor are these features disclosed or suggested by Wipperfurth. Therefore, the double-patenting rejection of Claim 39 is submitted to be erroneous and should be withdrawn.

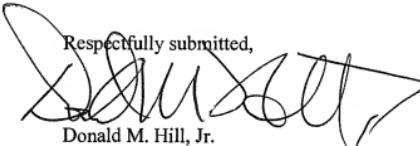
Conclusion

Based on the above amendments and remarks, Applicant submits that all objections and rejections have been overcome and the application is in condition for allowance.

Appl. No.: 10/576,744
Amdt. dated 12/02/2010
Reply to Office action of 09/02/2010

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefor (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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